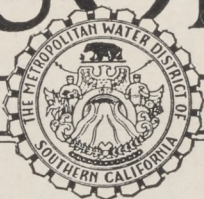


• COLORADO RIVER •
AQUEDUCT NEWS

THE METROPOLITAN WATER DISTRICT

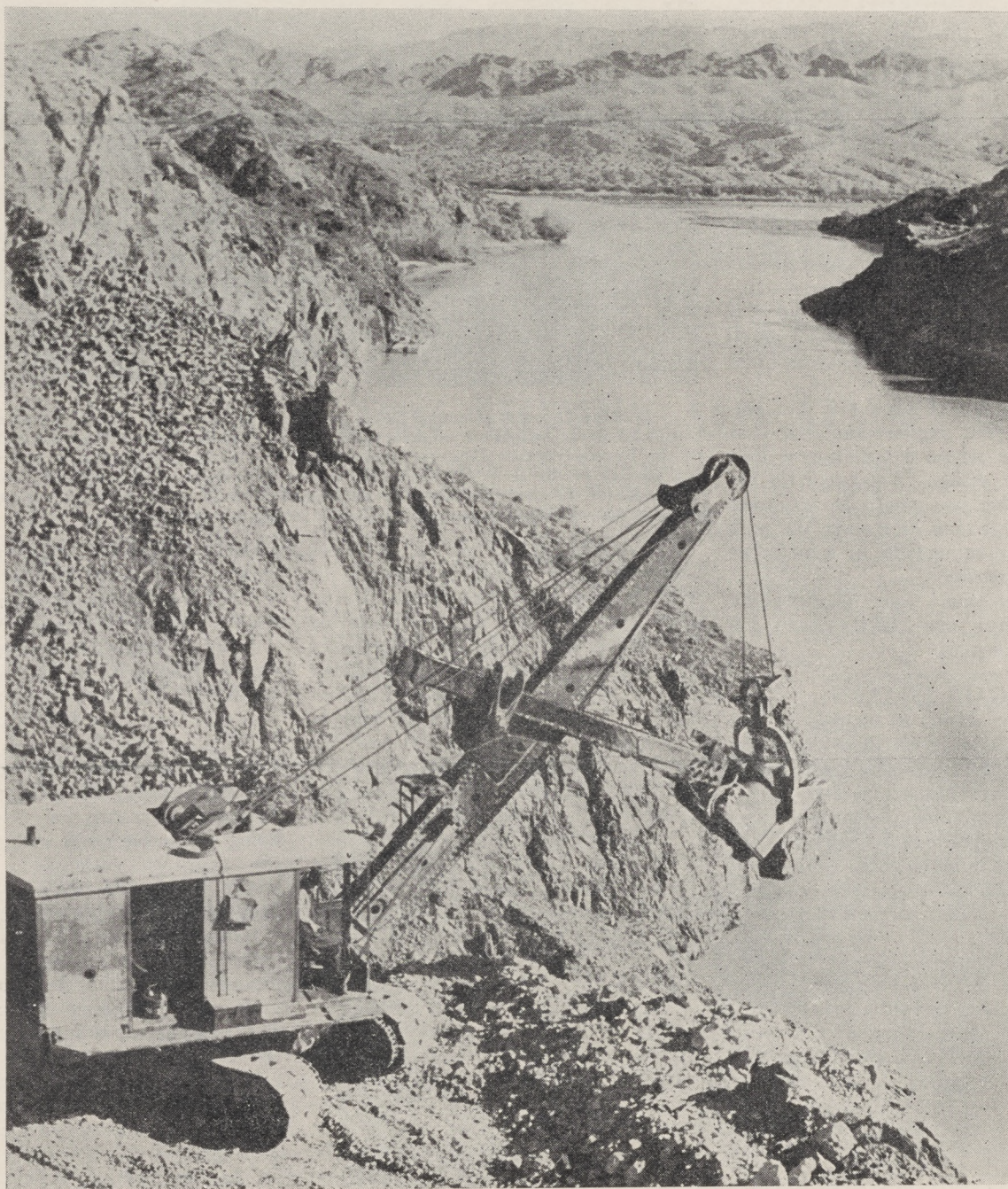


OF SOUTHERN CALIFORNIA

Vol. II

APRIL 5, 1935

No. 7



HISTORY REPEATS

This Six Companies' shovel was the first on the job at Boulder Dam in 1931. Today it is pioneering Parker Dam construction some 150 miles downstream.

• COLORADO RIVER
AQUEDUCT NEWS
THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA

LOS ANGELES, CALIFORNIA

Published twice monthly in the interest of Field and Office Workers on the Colorado River Aqueduct, and for the information of all other citizens of the Metropolitan Water District.

Vol. II April 5, 1935 No. 7

WARNING!

This is a message to every Colorado River Aqueduct worker (whether he be an employee of the District or a contractor) who holds one of the identification certificates issued by the Metropolitan Water District Labor Employment Office.

These cards are VALUABLE POSSESSIONS. They certify that you are eligible for a JOB.

Therefore, use common sense in preserving your card. Treat it like the valuable possession it is. Don't carry it around with you in your pocket when you don't need it to help you obtain a job.

In other words, when you are employed put your registration card in a SAFE place, where it will not be lost, destroyed or stolen. Treat it with the same care that you would an insurance policy, a large sum of money, the pink slip for your automobile, or some other valuable possession.

Remember that your identification card represents your right to your job and to future jobs.

AGAIN THANKS

The editor wishes to express his sincere appreciation to all those along the Aqueduct line who have contributed items to recent issues of the NEWS.

These contributions have been particularly appreciated because of the realization that news notes from Field and Office represent a real sacrifice of leisure time on the part of the correspondents.

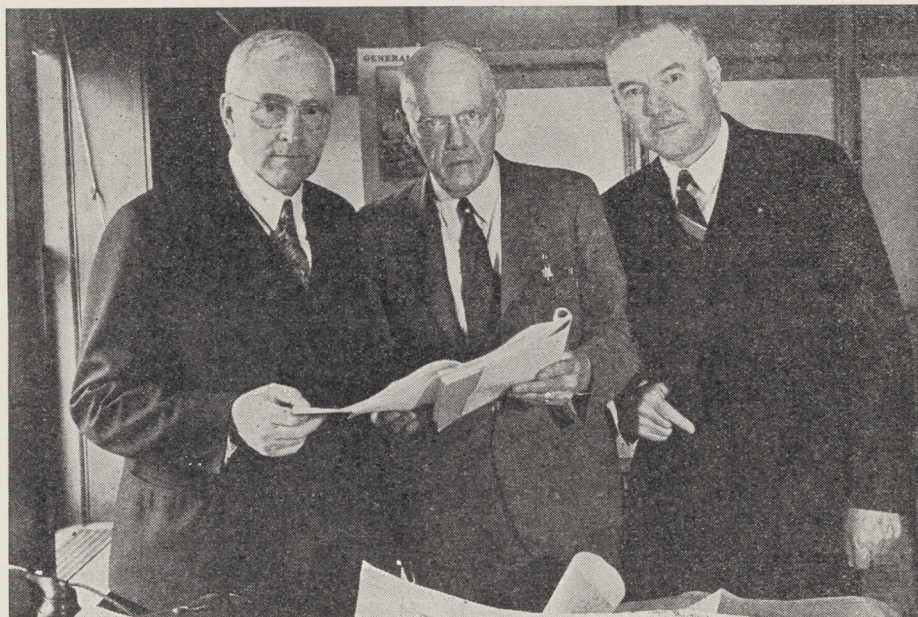
CONGRATULATIONS

To the superintendents, engineers and miners of Fargo, Yellow, Wide Canyon and Thousand Palms camps, go the congratulations of everyone on the Aqueduct.

Details of their holing through of Wide Canyon Tunnel No. 1 and the easterly portion of the East Coachella Tunnel are to be found on page 8 of this issue of the NEWS.

Two jobs well done!

AQUEDUCT GIVEN PRAISE BY CHIEF ENGINEER MACARTNEY OF R. F. C. FOLLOWING TOUR



Talking it over. General Manager F. E. Weymouth (left) discusses details of Colorado River Aqueduct construction with Morton Macartney (center), chief engineer of the Reconstruction Finance Corporation, and Robert J. Cummins, special engineering adviser of the R. F. C. Following a tour of inspection along the aqueduct line last week, Chief Engineer Macartney expressed himself as being highly pleased with the manner in which work on the project is being carried forward.

Praising highly the manner in which Colorado River Aqueduct construction work is being conducted by the Metropolitan Water District, and declaring that he has been particularly impressed with the lack of waste and extravagance on the aqueduct job, Chief Engineer Morton Macartney of the Reconstruction Finance Corporation last week arrived in Los Angeles following a one week's inspection tour of the 300-mile aqueduct route.

Mr. Macartney, who came west from Washington, D. C., to inspect various projects in the Southwest, was accompanied on the aqueduct inspection trip by Robert J. Cummins, special engineering adviser, and Meredith Kelley, assistant auditor of the R. F. C.

Mr. Kelley is to be in Los Angeles for several weeks making the first periodic audit of the District accounts as they affect the R. F. C. Mr. Kelley was formerly with Price-Waterhouse and Co., and has had wide auditing experience.

The aqueduct inspection trip of Mr. Macartney and Mr. Cummins included the tunnels, conduits and other structures along the line of the aqueduct, and also included a general survey of the pro-

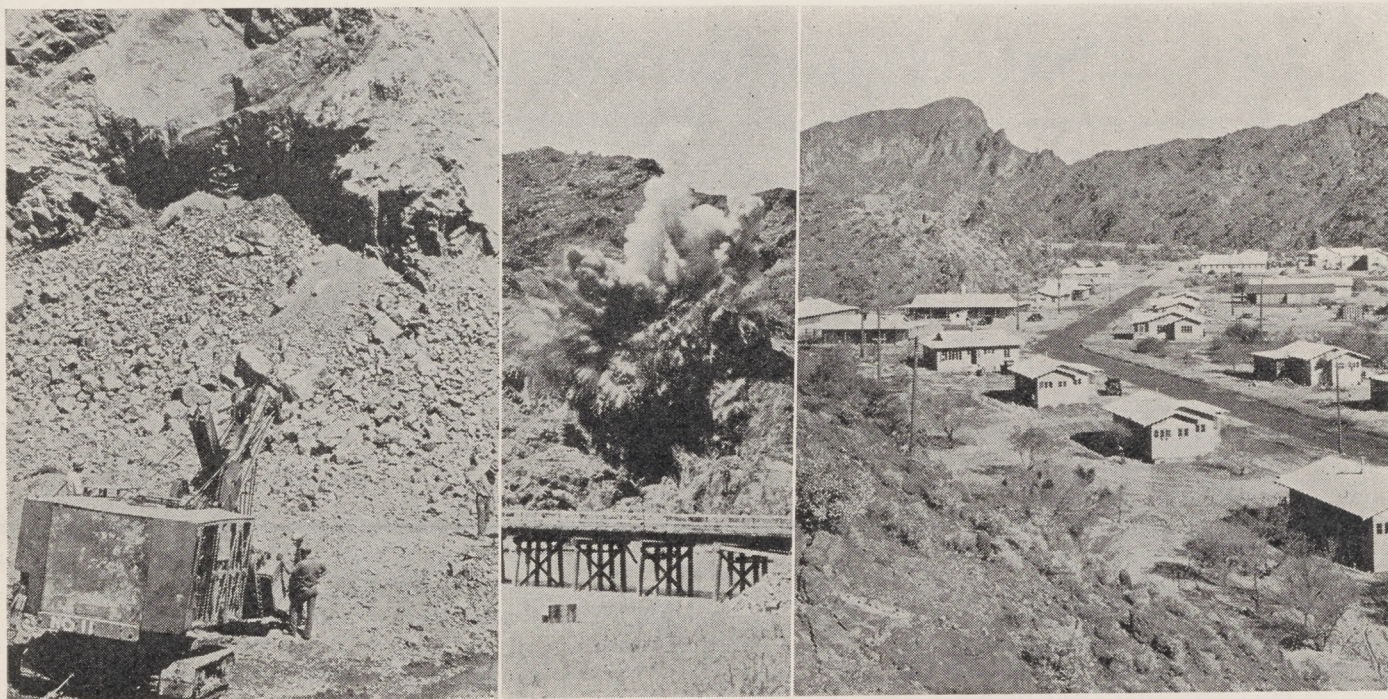
posed distribution system to the different member cities in the District.

"We were impressed with the magnitude of the project, and its value not only to the immediate future but to the metropolitan areas in Southern California for all time, as long as this civilization will last," said Mr. Macartney.

"The aqueduct structures are permanent, well designed, and well executed. We have found the engineers, superintendents, foremen, and even the men doing the actual work along the line of the aqueduct enthusiastic about the work. The esprit de corps is very fine and the work very well organized.

"Some parts of the work have presented difficulties, many of which have been overcome, and the plans and program of the District undoubtedly will overcome the remaining difficulties along the way.

"We have been very much impressed with the high degree of coordination between the contractors and the District, with the lack of waste and extravagance on the aqueduct job. The District is to be congratulated on the manner in which it is carrying forward this very successful and wonderful project."



Work moves forward at Parker Dam site. The pictures above reveal how rapidly construction operations are getting under way. At the left is a view of excavation work on the outlet portals of the division tunnels on the Arizona side of

the river. The center picture is of blasting operations in connection with road building on the California bank, with the construction trestle bridge in the foreground. At right is a general view of the U. S. Reclamation Bureau camp on the job.

PARKER DAM WORK MOVES AHEAD AT RIVER

Increasing progress on Parker Dam work was reported from the river last week as tunnel outlet channel excavation, road construction, and camp building were carried forward.

In the outlet channel downstream from the diversion tunnels, on the Arizona side of the river, excavation has proceeded to the point where preparations are being made for opening the tunnel portals.

On the road to the dam, on the Cali-

fornia side of the river, one rock cut about halfway along the location has been started, and drilling and blasting are under way on either side.

The Government camp as a whole is 90 per cent complete. The group of buildings, including the garages, laboratory, office, and dormitory, is practically finished except for the installation of air-conditioning plants. The utilities have been completed, the grading is about half done, and ten of the twelve cottages

have been made ready for occupancy, with the other two 75 per cent finished.

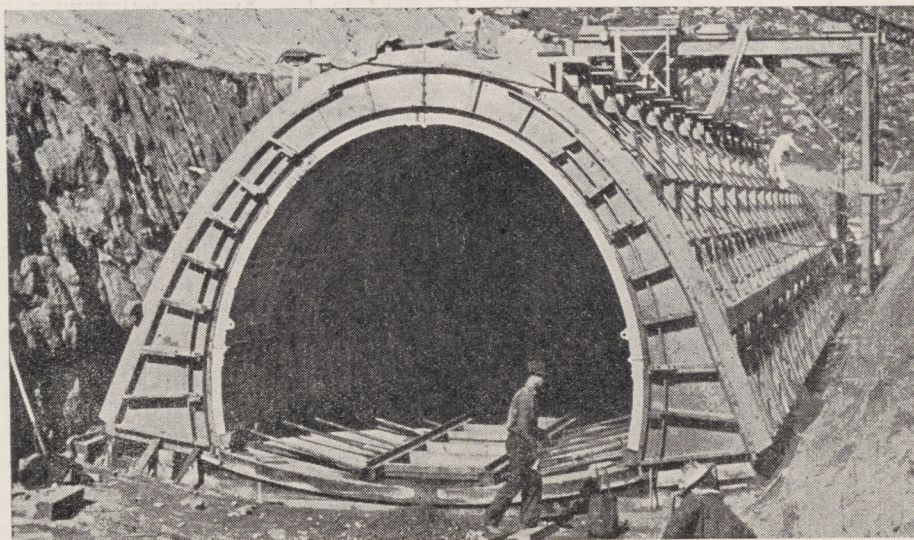
Both the Government and the Six Companies camps have been connected with the Metropolitan Water District construction water system.

An interesting sidelight of the week was furnished by the use, on road excavation, of "Old Faithful," the same shovel which broke ground in 1931 on Boulder Dam construction, 150 miles upstream.

Griffith Company Pours First Concrete

Proving that the launching of new construction work is not limited to the eastern end of the aqueduct line, was the pouring by Griffith Company crews, on March 21, of the first open work concrete to be put in place west of San Jacinto tunnel.

The picture on the right, taken March 22, shows the newly poured conduit section at the east end of Schedule 23, between San Jacinto and Bernasconi tunnel. The Griffith Company has under contract in this same vicinity, a total of 12.8 miles of conduits, siphon and outlet channel.



Safety on the Aqueduct

With a perfect record of no lost time accidents incurred in its high voltage construction and maintenance work for the first two years, the Operating Department deserves attention. Due to the recognized hazards of high line and "hot" substation rack work, every precaution has been taken to make this work as "safe" as humanly possible.

The Operating Department, as a whole, has a frequency of lost time accidents of 8.56 which resulted from a few minor non-electrical accidents. The severity of lost time accidents is .002, and the total cost of all medical aid has amounted to approximately \$166.

The power, water and telephone systems, and the Banning Garage, which comprise the Operating Department, start the third year with the determination to keep a clean slate. When it is realized that the operations of this division extend 470 miles for the transmission line, 180 miles for the water system, and 320 pole miles for the telephone system it may be seen that the maintenance of the exceptionally good record noted above will be no small task for C. P. Weaver and his crews.

That irrepressible organ of the great open spaces—the Muckpile Gossiper—is continuing its merry way, spreading the gospel of safety under the editorship of R. A. Jarrett.

A few of the many tid-bits from the Gossiper's columns worth reprinting for the benefit of those who aren't within its sphere of activity:

"Only women can use powder safely—then it's likely to go PUFF!"

"If you get the goggle habit, you won't have to get someone to read the paper for you."

"Many jobs on the Aqueduct still are in their infancy. Many are yet to be started. This is the time for every man in a position of authority, with the welfare of his company at heart as well as his men, to instruct, advise, and act the safety way in every way."

"Don't tell the boss you are experienced unless you are—A boss can tell!"

* * *

When safety is spoken of there is a tendency on the part of many to think of it exclusively from the angle of the workmen—forgetting that safety is a two-edged sword. In addition to saving

the personnel from anguish, pain, and possible death, the following of safe practices saves the employer dollars and cents. Therefore, *both* the workmen and the employer have (if they are wise) an impelling reason for cooperating in this direction.

The following interesting comment along this line comes from the American Standards Association:

In accounting for business' growing interests in accident prevention, these four facts, proved time and again by research, are now becoming widely recognized:

1. That safety is definitely associated with the volume and efficiency of production and increased operating costs.

2. That the total cost of accidents is several times greater than the aggregate expenditures for claims, medical services, and hospitalization.

3. That the unsafe acts of persons produce more accidents by far than hazardous machines.

4. That the correction of unsafe acts is just as much and just as readily a matter of management and supervision as the correction of improper acts that result in poor quality and volume.

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Division 4.....B. C. Leadbetter
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SUPERINTENDENTS

(Tunnel)

Colorado River, Copper Basin and Whipple Mt. Tunnels, Walsh Construction Co., F. T. Huntington, Gen. Supt.; W. A. Huntington and Jack Lamey, Tunnel Supts.

Coxcomb Tunnel and Iron Mt. shaft, Winston Bros., E. A. Bernard, Gen. Supt.; F. T. Hillman and R. B. Johnson, Tunnel Supts.

Iron Mt. Tunnel, West Portal, Utah Constr. Co., Ben Arp, Gen. Supt.

East Eagle Mt. Tunnel and West Eagle Mt. Tunnel, east portion, Broderick & Gordon, C. J. Kavanagh, Gen. Supt.

West Eagle Mt. Tunnel, west portion, L. E. Dixon and Bent Bros., P. C. Guinn, Gen. Supt.

Hayfield Tunnel No. 1, Hunkin & Conkey Constr. Co., G. B. Hoag, Gen. Supt.; F. Backlund, Tunnel Supt.

Hayfield Tunnel No. 2, Shofner & Gordon, H. E. Warden, Gen. Supt.

Cottonwood Tunnel, J. F. Shea Co., Inc., Gilbert Shea, Gen. Mgr.; Wallace Young, Master Mechanic.

Mecca Pass Tunnels, Morrison-Knudsen—Completed.

Coachella Division, R. M. Merriman, Division Supt.

Yellow Canyon Adit, E. Coachella Tunnel—

District Force Account.....R. L. Bryant

Fargo Adit, East Coachella Tunnel—

District Force Account.....J. H. Manwaring

Berdoo Adit, East Coachella Tunnel—

District Force Account.....F. A. Weller

Pushawalla Adit, East Coachella Tunnel—

District Force Account.....Kenneth MacIsaac

Thousand Palms—

District Force Account.....D. L. Reaburn

Wide Canyon—

District Force Account.....John Jackman

Long Canyon—

District Force Account.....C. E. Sides

Little Morongo—

District Force Account.....

Whitewater Tunnels, West Constr. Co., H. E. Carleton, Gen. Supt.; Angus MacDonnell, Tunnel Supt.

San Jacinto Tunnel, District Force Account, C. R. Rankin, Gen. Supt.; E. E. McCabe, W. L. Taylor, and Jack Stone, Tunnel Supts.

Bernasconi Tunnel, Hamilton & Gleason Co., Alex Simpson, Tunnel Supt., H. F. Stocker, Concrete Supt.

Valverde Tunnel, Dravo Contr. Co., R. W. Remp, Gen. Supt.; H. C. Richardson, Asst. Gen. Supt.; Fred Youmans, Tunnel Supt.; John Will, Concrete Supt.

SUPERINTENDENTS

(Canal, Siphon, Conduit)

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Schedules Nos. 7 and 7A, Barrett & Hilp & Macco Corporation, Jesse S. Smith, Gen. Supt.; H. W. McKinley, Excav. Supt.; Robt. McCune, Concrete Supt.

Schedules Nos. 6, 8, 8A and 8B, Clyde W. Wood and M. J. Bevanda, A. F. Weesner, Gen. Supt.; L. L. Green, Excav. Supt.; A. V. Fisher and V. S. Price, Concrete Supts.

Schedules Nos. 9, 9A, 9B, and 9C, The Utah Construction Company, Ben Arp, Gen. Supt.; E. C. Caldwell, Excav. Supt.

Schedules Nos. 10, 10A and 10B, Aqueduct Construction Company, C. M. Elliott, Gen. Supt.; Charles Harlowe, Jr., Excav. Supt.

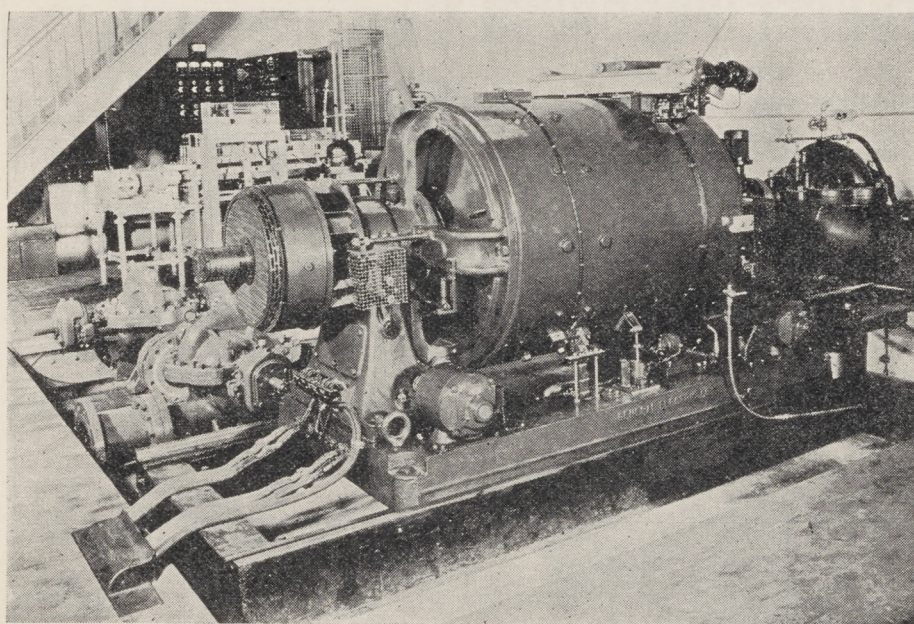
Schedules Nos. 12 and 12A, Three Companies, Inc., Charles G. Clapp, Supt.

Schedules Nos. 14, 15 and 16, Thompson-Starrett Co., Inc., William Hayes, Gen. Supt.; Thomas McIlvenna and Joseph Rice, Field Supts.; Rodney Smith, resident engineer.

Schedule 18-J, Morrison-Knudsen, George Fortier, Gen. Supt.

Schedule No. 20, J. F. Shea Co., Inc., H. F. Remnerbohm, Supt.

Schedules Nos. 20A, 20B, 20C, 21, 22, and 23, The Griffith Company, Harry Davis, Supt.



Dynamometer at District Pump Testing Laboratory.

PUMP LABORATORY SPEED AND ACCURACY DESCRIBED

(EDITOR'S NOTE: This is the concluding installment of a paper written by Professor R. L. Daugherty, of California Institute of Technology, describing the Metropolitan Water District Pump Testing Laboratory on the Caltech campus.)

"This laboratory is unique in at least two ways, and these two features are: first, speed, and second, accuracy of testing. It is believed that no other pump laboratory in the world can compare with it in these two respects.

"A third feature in which it excells most other laboratories is that certain quantities, such as rotative speed and suction pressure, for example, can be varied through extremely wide limits. Among the factors which make for both speed and accuracy of testing is that automatic control is provided for various fundamental quantities so that they will be held constant throughout the test. Also very few quantities are measured by any instruments which require calibration, as in almost every instance an effort has been made to get back to primary standards so that there can be no question as to the measurement. The principal exception to this is in the use of Venturi meters for the measurement of the rate of discharge of the pumps. But in this case the Venturi meters are calibrated in place by means of volumetric measuring tanks, which in turn were accurately calibrated.

"It was necessary to design and build special equipment for the automatic control of speed, suction pressure, and capacity, and automatic measuring instruments for the other dependent quantities.

The automatic control equipment was designed not only to maintain constant conditions during a given test but also to operate over an unusually wide range of speeds and suction pressures.

"The pumps being tested are driven by and the power input measured by an electric dynamometer of special design capable of delivering 500 horse-power and operating at speeds from 500 up to 5,500 revolutions per minute. The speed of the dynamometer is determined by a device which can be set so as to give any speed desired between the above limits in steps of one-half revolution per minute and to keep the speed fluctuation during a test period down to less than one revolution per minute. Thus it is possible to have a dynamometer speed of 4,732.5 revolutions per minute, for example, and over a period of several minutes the average speed will probably not differ from the above value set by the instrument by more than one part in 100,000, but there may be instantaneous variations between 4732 and 4733 revolutions per minute.

"The dynamometer torque and discharge and suction pressures are automatically weighed or measured by dead weight devices so that no calibration is necessary. The pressure gages used for measuring the water pressure will read and measure to 0.01 pound per square

inch. Since the water pressure on the discharge side of the pump may range from small values up to 200 pounds per square inch and even more, the degree of accuracy is very high.

"As previously stated, rates of flow are measured directly by Venturi meters, which were built in the Institute shops. There are four of these ranging in size from 2.5 inches to 8 inches and installed in parallel so that the size can be used which is most suitable for the rate of flow being measured.

"The pressure differential for the Venturi meters can be read to 0.0006 inch of mercury. The reading may be from a few inches up to some 26 inches.

"The torque on the dynamometer can be read to 0.01 foot-pound. The maximum reading may be about 800 foot-pound.

"These values are for static conditions. In operation there are always slight fluctuations in values, so that the actual quantity being measured will have variations in it slightly more than the accuracy of the instrument.

"In addition to the normal procedure for pump testing an extensive investigation is being made of cavitation.

"In order to determine the performance of the pumps during the transient conditions when the power is shut off complete characteristics will be obtained with the pumps running both forward and backward and with the flow of water through the pumps in both a positive and a negative direction. Thus at times these pumps under test will operate as turbines. These investigations can be done in part by using water stored up in pressure tanks for certain studies, but to determine the characteristics in reverse flow the water will be supplied at a steady rate by two service pumps. These two pumps may be operated either in series or in parallel and are capable of delivering up to 16 cubic feet of water per second and developing heads up to 750 feet of water.

"In addition to the equipment already mentioned there are two pressure tanks of 1,000 cubic feet capacity each and designed for a working pressure of 300 pounds per square inch; two accurately calibrated volumetric measuring tanks of 300 to 1,000 cubic feet capacity; and other smaller pumps and miscellaneous equipment. To insure precision of measurement an independent time standard of the quartz crystal type has been installed so that time is given to an accuracy of one part in 100,000.

"In addition to research work on centrifugal pumps, many other hydraulic problems can be successfully attacked in this laboratory with the aid of the present facilities."

BEST PROGRESS THIS PERIOD

16 FT. DIA. TUNNELS
6-Day Week—Long Canyon East, 779 ft.
7-Day Week—Whipple Mt. East, 989 ft.
10 FT. DIA. TUNNELS
Pasadena, 1,158 ft.

TUNNEL PROGRESS

March 1 to 31, 1935

Tunnel Excavated to Date, 66.16 Miles

BEST WEEK'S PROGRESS, 1935

16 FT. DIA. TUNNELS
6-Day Week—Seven Palms West, 225 ft.
7-Day Week—Whipple Mt. East, 289 ft.
10 FT. DIA. TUNNELS
Pasadena, 309 ft.

TUNNELS ON CONTRACT	Length in feet	Number of Shifts	EXCAVATION PROGRESS IN FEET			TUNNELS ON CONTRACT	Length in feet	Number of Shifts	EXCAVATION PROGRESS IN FEET		
			Average Per Shift	This Period	Total to date				Average Per Shift	This Period	Total to date
Walsh Constr. Co. COLORADO RIVER West Portal	(5482) 5482			0	5482	J. F. Shea Co. COTTONWOOD East Portal West Portal	(20,105) 10,118 9987		Concrete Progress to Date Arch, 3,452 ft. Invert, 0		10,118 9987
COPPER BASIN, No. 1 West Portal	(705) 705			0	705	Morrison-Knudsen MECCA PASS TUNNELS	(5,940)		Work Completed 2-10-35		5940
COPPER BASIN, No. 2 East from adit Adit West from adit	(11,568) 1878 330 9690			0 0 0	1878 330 9690	West Constr. Co. WHITEWATER No. 1, West Portal No. 2, East Portal	(10,232) 2060 8172		Concrete Progress to Date Arch, 10,232 ft. Invert, 10,232 ft.		2060 8172
WHIPPLE MT. East from adit Adit West from adit	(32,265) 18,352 924 13,913	93 93	10.6 7.7	989 720	11,165 924 9,162	Hamilton & Gleason BERNASCONI East Portal	(6220) 6220	6	3.3	20	6220
Winston Bros. IRON MT. East from shaft Shaft West from shaft	(39,759) 9844 165 13,743	93 93	6.3 7.0	585 647	5,563 165 10,032	Dravo Contr. Co. VALVERDE East from Shaft 1 Shaft 1 West from Shaft 1	(38,765) 2140 64 1525		Concrete Progress to Date Arch, 8,141 ft. Invert, 1,857 ft.		2140 64 2265
Utah Constr. Co. IRON MT. West Portal	16,172	93	7.5	697	12,853	East from Shaft 2 Shaft 2 West from Shaft 2	5400 204 5400	82	4.8	395	4660 204 7,533
Winston Bros. COXCOMB East Portal	(17,795) 17,795	75	9.1	680	11,337	East from Shaft 3 Shaft 3 West from Shaft 3	6950 192 6950	87	1.3	111	4,044 192 6,650
Broderick & Gordon EAST EAGLE MT. West Portal	(9,442) 9442	51	6.7	344	4,082	East from Adit Adit West from Adit	5117 391 5283	87	4.0	350 0 287	1,248 391 992
WEST EAGLE MT. East from adit Adit West from adit	(26,494) 7871 2008 7974	51 51	9.3 8.5	474 432	6,529 2008 5,808	West Constr. Co. MONROVIA TUNNELS* No. 1, West Portal No. 2, West Portal No. 3, East from Adit Fish Canyon Adit No. 3, West from Adit No. 3, West Portal	(40,919) 7865 940 11,340 1616 10,000 10,774	25 23	1.2 3.5	29 80	29 0 0 0 0 80
Dixon & Bent WEST EAGLE MT. West Portal	10,649	75	5.4	402	9,325	Dixon, Bent & Johnson PASADENA TUNNEL* West Portal	(12,143) 12,143	92	12.4	1,158	1,265
Hunkin & Conkey HAYFIELD, No. 1 East from adit Adit West from adit	(9,733) 5,337 511 4396	36	4.4	158 0 0	5,337 511 4,396	Total Excav. Contract Tunnels exclusive of Adits and Shafts (In Miles)	293,002 55.49	1,374	6.5	8,936 1.69	192,182 36.40
Shofner & Gordon HAYFIELD, No. 2 West Portal	(5435) 5435			0	5,435						
TUNNELS ON FORCE ACCOUNT											
EAST COACHELLA TUNNEL	Sched. (96,605)					LONG CANYON E. Portal W. Portal	(15,295) 8360 6935	75	10.4	779	7,725 0
Yellow Canyon Adit	1	686		0	686	BLIND CANYON E. Portal W. Portal	(6848) — 6848			0	0 5580
East from adit	1	10,204	38	4.7	10,204	MORONGO No. 1 E. Portal W. Portal	(5712) 5712 —			0	5364 0
West from adit	1	10,076			11,368	MORONGO No. 2 E. Portal W. Portal	(1820) 1820 —			0	0 0
Fargo Canyon Adit	2	891	63	9.0	891	SAN JACINTO East from Cabazon Cabazon shaft Cross drift West from Cabazon	(67,415) 8553 246 935 22,839	93	1.3	119 0 0 104	2,001 246 935 4,978
East from adit	2	11,850	75	9.7	10,558	East from Potrero Potrero shaft West from Potrero	20,589 796 6712	92 93	0 0	0 0	160 796 1455
West from adit	2	15,200			9,236	West Portal	8722	93	4.9	455	5,408
Berdoo Canyon Adit	3	2042	75	5.9	2042	Total excav. Force Acct. Tunnels excl. of Adits and Shafts (In Miles)	245,474 46.49	1,231	5.4	6,601 1.25	157,152 29.76
East from adit	3	15,824			11,330	Total Tunnel Excavation (Miles)	101.98		6.0 ft.	2.94	66.16
West from adit	3	12,456			11,963						
Pushawalla Canyon Adit	4	2935	75	8.1	2935						
East from adit	4	10,186			9,551						
West from adit	4	10,809			9,201						
WEST COACHELLA TUNNELS	(81,454)										
THOUSAND PALMS No. 1, West Portal No. 2, Tunnel	5 5	16,058 3838	75	6.3	470 0						
WIDE CANYON No. 1, E. Portal No. 1, W. Portal No. 2 Tunnel	Sched. 5 6 6	5122 9183 848	54 12	7.7 5.8	417 70						
SEVEN PALMS E. Portal W. Portal	6 7	8390 8340	75	8.2	0 616						

*Distribution System Tunnels—Diameter 10 ft., Total length 10.05 miles. Adits and Shafts not included in total footage.

NEWS FROM FIELD AND OFFICE

A grievous error on the part of a NEWS correspondent has been corrected by a reader in the following thumb-nail treatise: "Your 'hay-burning crustacean', so termed, in the last issue of the NEWS, is, no doubt, meant for a 'hay-burning chelonian.' The genus Crustacea embraces the lobsters, crabs, crayfish, barnacles, etc., of aquatic fame. Turtles and tortoises come under Reptilia, and sub-family, Chelonia. Tortoises are of terrestrial fame. A crayfish in these parts, I imagine, would feel like the proverbial snowball in the well known torrid region—that is, until the silvery Colorado wends westward through the wrath of the scorching sands." We stand corrected, professor.

So many changes have taken place in personnel recently that we believe the Banning correspondent may be excused for overlooking a few now and then. The latest has it that A. F. Dignum, formerly Camp Clerk at Pushawalla Camp has been transferred to the Compensation Claims division in Banning. Another transfer is that of Hal Munn, formerly assistant safety engineer in division 4, to Banning on the new San Jac work. Assistant Safety Engineer H. Norton Johnson, who was located in Banning, will take over the Coachella work.

We wouldn't care to mention any names but we have it on pretty good authority that the invert pouring over in the Whitewater tunnel has at last been started under very good supervision. It seems that two of the fair sex working in the Banning office had become concerned over the progress being made at that location. Accordingly an inspection trip was made and the two "inspectors" report that everything is going along in fine shape.

Miss Kathryn May Lee and Lewis Kilbourn were married at the Highland Park Presbyterian Church on March 9, at 4:30 in the afternoon. A number of aqueduct employees attended. Dean Bachelder, who worked for a time in the testing laboratory at Banning, was one of the groomsmen. Miss Lee was formerly in the personnel division, having been employed there since December of 1932. Mr. Kilbourn was formerly at Berdoo Camp, and is now at Division 1.

Assistant Engineer N. B. Smith has been transferred from Division 4 to Distribution Engineer Diemer's staff.

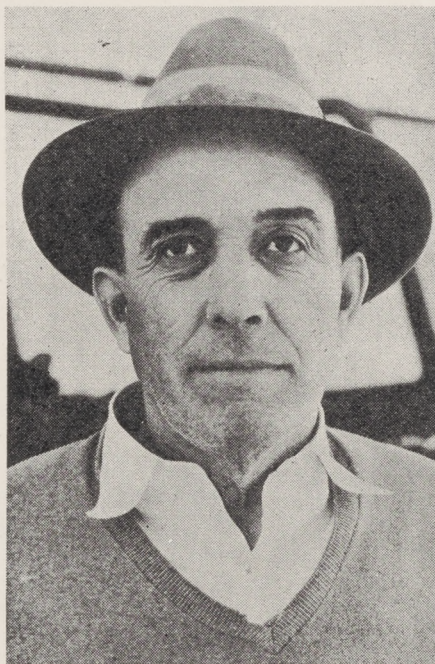
AQUEDUCT TEMPERATURES

March 1 to 31, 1935

	Max.	Min.
Div. 1.....	84°	38°
Div. 2.....	88°	36°
Div. 3.....	88°	32°
Div. 4.....	84°	41°
Div. 5 and 6.....	80°	22°

So many changes have been made in the Banning office that it is now almost necessary to issue a daily map in order to avoid becoming lost. The north wing has been subdivided and individual offices have been created. The east end of the wing has been left open for a general office space. Several of the old rooms have had some very necessary repairs made and it is understood that there is still painting to be done. Looks as if Spring is here.

W. W. Weed, chief landscape gardener of the Bureau of Reclamation at Boulder City, has been transferred by the Bureau to Parker Dam to improve on the present dusty landscape of the Government camp there.



Here's living proof that there still are strong, silent men in these here western hills. No Zane Grey cowboy hero, but a hard rock tunnel man is Tom Hillman, superintendent on Winston Brothers' East Iron Mountain job. Aside from occupation, however, he lives up to Mr. Grey's specifications—at least he's plenty silent.

The issuance of 10,000 identification certificates is as much an occasion as holing through a tunnel or pouring "steen" yards of concrete. To make an event of the incident, members of the Labor Employment Office staff took time enough from their battle to keep abreast of the rising tide of orders for workmen, to have coffee and doughnuts and talk over the many "beautiful" pictures taken during the past year.

On completion of the two dormitory cottages under construction at Division 2 Headquarters, the guest cottage now in use as an auxiliary dormitory will be available to visitors about the middle of April. Installation of an air-cooling system is expected to make this one of the most popular stopping places on the aqueduct.

Another notable performance (on which information reached the NEWS too late for inclusion in the service record story of the March 20 issue) is that of Thomas Scilk, miner and safety miner at Pushawalla camp, who was employed on April 19, 1935, and worked steadily without losing a shift for 22 months and four days.

This is getting monotonous—the Walsh boys are at it again. For the week ending March 30, Walsh Construction Company crews in Whipple East drove 289 feet of tunnel, which is five feet better than the 284 feet made for the week ending December 15, 1934, by Walsh crews in Copper Basin No. 2, west heading.

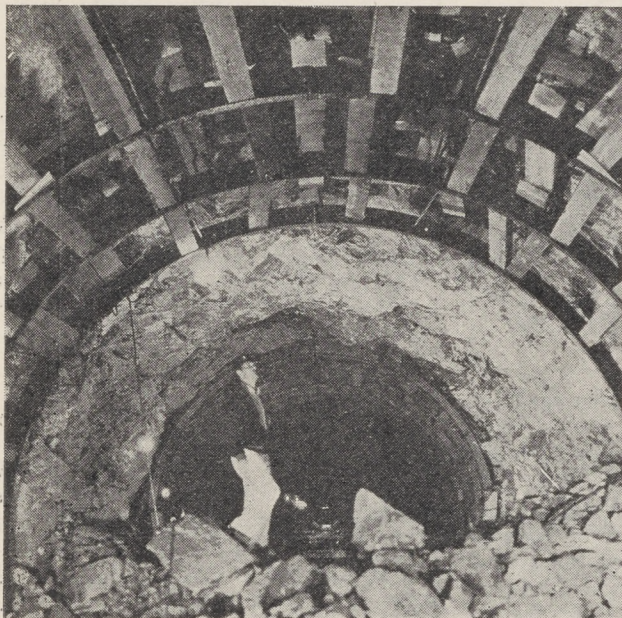
C. A. Hillegass, telephone operator at Berdoo camp, was married to Miss Dorothy Fislies of Los Angeles a few weeks ago during Mr. Hillegass' four-day leave. They are living in Indio.

Rating changes on Division 2 include those of Chainmen Francis Noel and C. E. Olson who have been made instrumentmen.

Notice of intention to wed has been filed by Harold Allen of Long Canyon Camp and Miss Helen Sewell, of Beaumont.

Tsuyoshi Sato, construction engineer for the Japanese Government railways, inspected aqueduct construction work on Divisions 4, 5 and 6, last week.

Ringgold Schley has been given a chainman's rating on Division 1.



Superintendent MacIsaac of Wide Canyon Camp (left) casts an appraising eye at the work of his boys, and those of Superintendent Reaburn of Thousand Palms, who holed



through Wide Canyon No. 1 Tunnel on March 22. On the right are some of the lads who did the job. Mrs. R. M. Merriman fired the final shot.

Newspaperman Errs In Aqueduct Report

A grave error appeared recently in Harry Carr's "Lancer" column in the Los Angeles Times, following an aqueduct inspection trip made by Mr. Carr.

This grievous mistake occurred in a description of the wonderful machines which have been put to use in carrying forward aqueduct construction. Mr. Carr stated that there is but one mule employed in the building of the aqueduct, the one on duty at Berdoo.

This statement has caused no end of sorrow for George Shaffer, mule skinner extraordinary at Yellow Canyon Camp. George resents the omission of his "Larry" and is doing a lot of kicking on behalf of the two of them.

Fargo-Yellow Crews Drive 7.81-Mile Section

Completion of excavation of the easterly 7.81 miles of the East Coachella tunnel took place on March 25, when crews from Yellow and Fargo camps came together at 11:51 P. M.

The two sections met with an error in alignment of .32 feet and an error in grade of .008 feet. Jack Zapp of Yellow and Jay Maple of Fargo were the engineers who steered the construction crews during recent months. J. H. Manwaring is superintendent at Fargo and R. L. Bryant holds the same post at Yellow. They had been preceded on the job by H. E. Warden and W. L. Taylor respectively.

Wide Canyon No. 1 Holed Through March 22

Another milestone in Colorado River Aqueduct construction was passed at 3:27 P. M., March 22, when crews from Wide Canyon and Thousand Palms holed through the first major Coachella Division tunnel—Wide Canyon Tunnel No. 1.

A year and a half of daily drilling, blasting, and mucking was rewarded by a "bull's-eye." The two sections of the tunnel met with errors of only .08 of a foot in alignment and .02 of a foot in grade, which occasioned general congratulations, especially for two members of the Division 4 engineering staff, W. E. (Spike) Lennen of Wide and Harry Barnes of Thousand Palms.

Mrs. R. M. Merriman threw the switch which set off the explosives that broke through the last 20-foot wall of rock dividing the two sections of tunnel.

Also very much in evidence at the ceremony were D. L. Reaburn, superintendent of Thousand Palms, and Kenneth MacIsaac, superintendent of Wide Canyon Camp. Reaburn was in charge of his end of the job from start to finish. At Wide Canyon, Superintendent MacIsaac was preceded by R. L. Bryant and John Jackman.

C. L. Keagle has been transferred from Division 4 to a chainman's job on Division 2.



Attention, Harry Carr! It may be of a mere shadow, but it is hoped that this will prove that there is more than one jackass helping bring Colorado River water to Southern California.